

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.(currently amended) A permanent magnet electric motor ~~characterized by~~ comprising:

a rotor provided with two stages of permanent magnets in the axial direction on an outer circumferential face of a rotor iron core, and having a shaft shifted by a first stage skew angle θ_r in electrical angle to decrease a first frequency component of cogging torque in the circumferential direction of said rotor iron core between two stages of said permanent magnets;

a stator iron core of cylindrical shape provided with the stator winding for producing a rotating magnetic field causing said rotor to be rotated; and

a stator dividing said stator iron core into plural blocks in the axial direction, and shifted by a second stage skew angle θ_s in electrical angle to decrease a second frequency component of said cogging torque in the circumferential direction of said stator iron core.

2.(currently amended) The permanent magnet electric motor according to claim 1, ~~wherein characterized in that~~ assuming that the axial length of said stator iron core is L_c (m), and the theoretical angle of said first stage skew angle $\theta_r(^{\circ})$ is an electrical angle $\theta_t(^{\circ})$, the following expression is satisfied,

$\theta_t = (360^{\circ}/\text{least common multiple of the number of stator magnetic poles and the number of rotor magnetic poles})/2 \quad \dots (1)$

$\theta_t < \theta_r < (700 \times 10^3 / L_c + \theta_t) \quad \dots (2)$

3.(currently amended) The permanent magnet electric motor according to claim 1 ~~or 2, wherein characterized in that~~ said stator has said stator iron core divided into the first, second and third stator blocks in the axial direction; and, wherein

said second stage skew angle θ_s is provided between said first stator block and said second stator block, and between said second stator block and said third stator block.

4.(currently amended) The permanent magnet electric motor according to claim 1 ~~any one of claims 1 to 3, wherein characterized in that~~ a clearance L_{cg} is provided between said first stator block and said second stator block, and between said second stator block and said third stator block, such that the inequality $0 < L_{cg} < 2.2g_m$ holds, where g_m is a gap between said stator and said rotor.